

RESPONSE TO COMMENTS

**Response to U.S. Environmental Protection Agency Comments on the
Draft Site Investigation Report, Former Decontamination Complex
Parcels 93(7), 46(7), 70(7), and 140(7)
Fort McClellan, Calhoun County, Alabama
July 2003**

Comments from Doyle T. Brittain, EPA Senior Remedial Project Manager, dated September 3, 2003.

GENERAL COMMENTS

Comment 1: **A preliminary conceptual site model needs to be included in this document for both human and ecological receptors.**

Response 1: Comment noted. The southern portion of this site was recommended for further investigation. The information requested by the reviewer will likely be included in a work plan detailing any additional investigative activities.

Comment 2: **To facilitate review, constituents that exceed both Ecological Screening Values (ESVs) and background should be presented in a summary table. After performance of the statistical and geochemical analysis, the remaining constituents, that were determined not to be site related, should be presented on a separate table. This second table should present the constituents as Constituents of Potential Ecological Concern (COPECs). As the text is written, it is difficult to determine what constituents are considered COPECs.**

Response 2: Disagree. Constituents identified as COPECs are listed in Chapter 6.0 of the report and this is acknowledged by the reviewer in Specific Comment No. 3 below. However, a summary table for COPECs will be added to Chapter 6.0 per the reviewer's request.

Shaw does not understand the reviewer's statement "...constituents that were determined *not to be site related* should be presented on a separate table" (emphasis added). This is counterintuitive: if a constituent is determined not to be site related, then it should be dropped from further consideration as a COPEC because its presence in site media is not attributable to Army activities.

Comment 3: **Based on the review of the information provided in Section 5 and in Appendix J, the following constituents should be considered COPECs:**

Soil:

- **Metals: Arsenic, cadmium, chromium, and zinc**
- **Semivolatile organic compounds (SVOC): Anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, phenanthrene, pyrene, and total PAHs**
- **Pesticides: 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and endrin ketone.**

Surface water:

- **Metals: Manganese, mercury, and thallium.**

Sediment:

- **Metals: Arsenic, cadmium, copper, lead, and zinc**
- **SVOCs/volatile organic compounds (VOC): Acenaphthylene, benzo(a)pyrene, benzo(k)fluoranthene, bis(2-ethylhexyl), di-n-butyl phthalate, pyrene, and total PAHs**
- **Pesticides: 4,4'-DDD and 4,4'-DDE.**

Response 3: Agree. With the exception of total PAHs, this information was provided almost verbatim in Chapter 6.0 of the report. For clarification, the individual metals and PAHs identified as COPECs will be compiled in a table and added to Chapter 6.0. In addition, total PAHs will be added as a COPEC for surface soil and sediment.

In the list provided above, EPA omitted four COPECs in surface soil (acetone, m,p-xylenes, phenol, and PCB 1254) and one COPEC in sediment (trichlorofluoromethane). In addition, the reviewer mistakenly identified thallium as a COPEC in surface water and di-n-butyl phthalate as a COPEC in sediment. Thallium and di-n-butyl phthalate should not be considered COPECs because the results were “B” qualified, indicating that these constituents are probably laboratory artifacts rather than site-related contaminants.

SPECIFIC COMMENTS

Comment 1: **Page 4-6, Line 27.** This section discusses the site surface hydrology. However, the ponded water depicted on Figure 4-1 is not discussed. Based on the review of this figure and Figure 3-1, it appears that this ponded water is located within a section of the parcel boundary. Text

should be added to this section discussing the ponded water and surface water drainage associated with it.

Response 1: Agree. Text will be added discussing the marshy area at the northern end of the parcel.

Comment 2: **Page 5-14, Line 1.** Section 5.6 states that the statistical and geochemical methods are described in Appendix J. The text in this section should present a summary of the constituents that were not considered to be site related and therefore, are considered to be COPECs. This section further states that the multi-tiered approach used is described in a 2003 Shaw memorandum. For ease of reference, a copy of this memorandum should be included in Appendix J.

Response 2: See response to General Comment No. 2. Again, this comment is confusing to Shaw because it is counterintuitive. If a constituent is “*not* considered to be site related” (emphasis added), then it should not be considered a COPEC because its presence in site media is not attributable to Army activities.

With regard to the second part of the comment, Shaw will include a copy of the technical memorandum in Appendix J of the revised report.

Comment 3: **Page 6-2, Line 10.** The COPECs are listed in this section. Total PAHs must be added as a COPEC for both surface soil and sediment. EPA Region 4 guidance states that if an individual component of a group of chemicals is detected, then the group of chemicals is considered to be a COPEC.

Response 3: Comment noted. Shaw was unaware of such guidance and questions what constitutes a “group” of chemicals? For example, if the VOC acetone is detected above its ESV in a sample, should all VOCs be included as COPECs? Nevertheless, total PAHs will be added as a COPEC for both surface soil and sediment.

Comment 4 **Page 6-2, Line 22.** The text states that the site is located within the developed area of the FTMC Main Post and is largely covered with asphalt pavement and buildings/foundations. Additionally, it states that the entire portion of Parcel 93(7) is fenced. However, the COPECs identified in sediment and surface water are present in sample locations outside of the fenced area. First, the text discussing surface water and sediment COPECs needs to be expanded to address the location of the elevated concentrations of the respective COPECs. Second, all COPECs identified in surface water and sediment should be carried forward into a Baseline Ecological Risk Assessment for further evaluation.

Response 4: Comment noted. See response to General Comment No. 1.

Comment 5: Appendices A and B. The reason for using chain of custody forms is to allow the reconstruction of the custody of the samples from time of collection until time of receipt by the analytical laboratory. This is accomplished by signatures at the appropriate locations on the appropriate forms. The sampling records in this appendix will not allow for the reconstruction of the COC for the following reasons.

- On approximately half of the sample collection logs (SCLs), the sampling team block contained printed names, not signatures. Anyone can print someone else's name.
- On the other half of the SCLs, the sampling team block contained handwritten initials or was blank.
- The name of the person who signed the relinquished block on all of the chain-of-custody (COC) forms does not appear on the sample collection logs.

Response 5: Comment noted. To clarify, the chain-of-custody forms (COC) are presented only in Appendix B – not Appendix A. The main thrust of the reviewer's comment regards chain of custody. However, the first two bullets above address irregularities with the sample collection logs (SCL). Chain of custody is documented on the COCs. While Shaw agrees that the SCLs should have been thoroughly completed as a matter of course, the irregularities therein do not invalidate the chain of custody because that is not their purpose.

With regard to the third bullet, Shaw followed the procedures outlined in Section 6.1.7.1 *Field Custody Procedures* presented in the *Draft Installation-Wide Sampling and Analysis Plan*, Revision 3, February 2002 (SAP). This section states, "The sampling team, sample coordinator, and site manager will maintain overall responsibility for the care and custody of the samples until they are transferred or properly dispatched to the on-site screening facility and/or fixed-based laboratory." In addition, SAP Section 6.1.7.2 *Transfer of Custody and Shipment* states, "General custody of the sample will be maintained by the sample collection team members from the time of collection in the field through preparation and shipment to the laboratory. The main custody transfer will occur when the sample shipment is received into the laboratory from the field and is documented." Similar language is also provided in the QAP.

Using these two sections as guidance, all Shaw field personnel who are responsible for the collection of field samples (which includes the sample coordinator and the site manager) were considered part of the "sample team." No custody transfer record was considered to be necessary among members

of the same sample collection team. If another contractor, a subcontractor to Shaw, the Army, or other personnel had collected samples and transferred them to Shaw for processing or analysis, then the transfer of custody of those samples would have been formally recorded using a COC form.

Multiple sample technicians were responsible for collecting samples and completing the sample collection logs. The samples and logs were funneled to the Shaw sample coordinator, who then reviewed the documentation, inventoried all of the samples collected, and compiled a single COC record to list all the samples collected (daily) for transfer to the receiving analytical laboratories. Therefore, the sample coordinator's signature on the form represents the transfer of custody from the Shaw sample team in the field to the analytical laboratory personnel (per Section 6.1.7.2 of the SAP). Shaw believes that this is satisfactory custody transfer documentation and, therefore, does not agree this indicates that sample custody was not maintained as stated in the comment. Shaw personnel followed the same chain-of-custody procedures that have been in effect since the beginning of the FTMC project in 1998. It is perplexing that until now these issues have never been called into question.

However, in light of recent comments received by EPA, Shaw has changed its COC procedures to include a separate COC for each sample collection team. Each sample collection team will submit samples, COCs, and SCLs to the sample coordinator. The SCLs and COCs will be reviewed by the sample coordinator prior to taking possession of the samples and signing the COC. This process will be repeated for each sample collection team in the field. The COCs will then be copied for the field records and maintained onsite. The original forms will be transmitted to the office for filing in the project central files. In future reports, this appendix will include all "supplementary" sample team COCs to document intra-team custody transfers and all SCLs.

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Comments from Stephen A. Cobb, ADEM Chief, Governmental Hazardous Waste Branch, Land Division, in a letter to Ronald M. Levy dated September 30, 2003.

SUMMARY

The Alabama Department of Environmental Management (ADEM or the Department) and the Environmental Protection Agency (EPA) have reviewed Fort McClellan's submittal of the subject *Draft Site Investigation Report*.

The Former Decontamination Complex is located on the corner of Freemont Road and Trench Hill Road. It covers approximately four acres. Fort McClellan's investigation of the complex consisted of a geophysical survey and collection/analysis of 27 surface soil samples, 5 depositional soil samples, 26 subsurface soil samples, 6 surface water samples, and 6 sediment samples. Fort McClellan's hydrogeological investigation of the site included the installation of 21 groundwater monitoring wells.

In its geophysical survey, Fort McClellan identified one anomaly at Parcel 140(7). The geophysical anomaly was initially interpreted to be an underground storage tank (UST). However, Fort McClellan did not identify a UST during exploratory excavation and trenching. Upon further review, Fort McClellan now believes the anomaly represents reinforced concrete, piping, debris, and/or back fill from previous tank removal activities.

Although the site is reportedly not projected for residential reuse, Fort McClellan screened sample analytical data against the more conservative residential site-specific screening levels (SSSLs) to evaluate the site for possible unrestricted reuse. Chemicals of potential concern (COPCs) were identified to include several metals (aluminum, antimony, chromium, iron, manganese), arsenic, polynuclear aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene), volatile organic compounds (acetone, vinyl chloride, 1,1,2,2-tetrachloroethane), and one semivolatile organic and explosive-related constituent (2,6-dinitrotoluene). However, based on the relatively low frequency of detection and the results of Fort McClellan's statistical/geochemical evaluation, only one COPC was retained.

Fort McClellan's geochemical evaluation was based on the natural association of certain target metals or trace elements with distinct ubiquitous metal constituents of soil or sediment. The effects of reductive dissolution and suspended particulates were considered during the evaluation of groundwater and surface water analytical data. Each sample was analyzed for the full list of 23 target analyte list metals.

Fort McClellan reported that acetone was the only COPC retained at this site. Acetone was detected in groundwater samples collected from five monitoring wells located in the southern portion of Parcel 93(7). Each sample contained acetone concentrations exceeding the site-specific screening level (SSSL). The source of acetone contamination reportedly remains unknown.

SPECIFIC COMMENTS

Comment 1: ADEM and EPA request further information concerning the site surface water hydrology. The ponded water, depicted in Figure 4-1, is located within a portion of the parcel boundary. However, upon review of Figure 3-2, it appears that Fort McClellan did not collect any surface water samples from that section of the parcel. The Department understands that no surface water samples could be taken if the pond was dry during the time of sample collection. However, no information is provided in the document to describe the conditions of the pond during the sample collection period. Please clarify this matter and describe if it would be warranted to collect surface water samples from this section of the parcel during the wet season. Also, on page 4-6, line 27, Fort McClellan did not reference the ponded water in its discussion of surface hydrology. Please include a discussion of the pond in the site surface hydrology section of the submittal.

Response 1: Agree that it appears no samples were collected from the area of ponded water (i.e., marshy area). Figure 3-2 does not show the location of the marshy area and will be revised accordingly. In addition, text will be added to Section 4.3.1 (Surface Hydrology) describing the marshy area. Disagree that no information was provided in the report describing the conditions of the marshy area during the sample collection period. Samples *were* collected from within the marshy area as stated in Table 3-1 (Sampling Locations and Rationale) and as indicated on the sample collection logs included as Appendix B of the report. Specifically, three surface water/sediment samples (locations FTA-93-SW/SD01, FTA-93-SW/SD02, and FTA-93-SW/SD03) and one depositional soil sample (FTA-93-DEP01) were collected in and around the marshy area.

Comment 2: Fort McClellan states that further investigation is needed to fully address the southern portion of Parcel 93(7) located south of Trench Hill Road. The purpose of the additional investigation is to determine the source of acetone in groundwater. The Department recommends that Fort McClellan collect a minimum of two additional samples from each groundwater monitoring well that was reported to contain acetone concentrations exceeding the SSSL.

Response 2: Comment noted.